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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/603,615	06/26/2000	Hee-Jin Lee	Q59502	3396

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EXAMINER

LEE, TIMOTHY L

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 01/20/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/603,615

Applicant(s)

LEE, HEE-JIN

Examiner

Timothy Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Remarks

1. The restriction requirement in the Office Action dated August 27, 2003 has been withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawamura (US 6,360,287). Kawamura discloses a system, in which a plurality of electronic apparatuses are connected by a bus, such as the 1394 bus, capable of transmitting isochronous packets and asynchronous packets, which perform communications among those electronic apparatuses. Kawamura mentions in the background of the invention that certain types of data have a small amount of data and do not merit being transmitted in isochronous communications. Kawamura provides for a scheme that provides means for transmitting data having a small amount of data in asynchronous communication. See col. 2, lines 3-16. It can be inferred from this statement that packets of “small” lengths are sent asynchronously, and packets of a length that aren’t “small” are sent isochronously (transferring data through the channel by isochronous data transfer service when it is determined that the length of the packet is no less than a predetermined length...transferring data by an asynchronous transfer service when it is determined that the

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length of the packet is less than a predetermined length). It is inherent that the system will check the length of the data to see if it is no less than a predetermined length in order to determine if it is small enough to send asynchronously (checking whether the length of a packet transferred from an upper layer to a node of the high speed serial bus is no less than a predetermined length).

4. Regarding claim 5, as mentioned previously, the system of Kawamura is designed to work for the IEEE1394 serial bus. See col. 1, lines 10-19.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-4, 6-8, and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura and in light of the rejection to claim 1.

7. Regarding claim 2, Kawamura does not expressly disclose wherein the predetermined length is a MTU defined by the TCP/IP protocol. However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to set the "small" amount mentioned in Kawamura to the length defined in the TCP/IP protocol. One would have been motivated to do this because the predetermined length is an arbitrarily chosen number which would make the system more efficient in how to allocate between its isochronous and asynchronous channels. If the designer of the system wants all TCP/IP packets to be sent

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asynchronously when they are transferred over the 1394 bus, then the length must be set at least as high as the maximum length of one of those packets.

8. Regarding claim 6, as mentioned previously, the system of Kawamura is designed to work for the IEEE1394 serial bus. See col. 1, lines 10-19.

9. Regarding claim 8, Kawamura does not expressly disclose where the length should be $N \times \text{MTU}$, where N is a positive number smaller than 1. However, it would have been obvious to set the predetermined length at such a value. Again, one would have been motivated to do this if it would make the allocations between what is sent isochronously and asynchronously more efficient. The setting of the predetermined length is a matter of design choice and will be set according to what types and how much data the system needs to handle.

10. Regarding claim 10, as mentioned previously, the system of Kawamura is designed to work for the IEEE1394 serial bus. See col. 1, lines 10-19.

11. Regarding claims 12 and 13, Kawamura does not expressly disclose where sending a packet asynchronously or isochronously depends on measuring the average rate of the MTU's. Berthand et al. discloses measuring the mean bit rate of traffic from a source and adapting the communications system to allow fairness. See col. 5, lines 1-42. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the mean packet rate calculation technique taught by Berthand et al. in the system of Kawamura to decide whether to send a packet isochronously or asynchronously. One would have been motivated to do this for similar reasons as mentioned before—resources should not be wasted in sending data isochronously if the data is small or isn't needed to be sent with regularity. If the data comes less than some predetermined rate, then it is more efficient for the system to send it asynchronously.

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12. Regarding claim 15, as mentioned previously, the system of Kawamura is designed to work for the IEEE1394 serial bus. See col. 1, lines 10-19.

13. Regarding claims 3, 4, 7, 9, 11, 14, and 16, Kawamura does not expressly disclose where the checking of the length occurs in the control part of the IP 1394 layer and an ARP layer.

However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to perform the step of checking for the length of the packet in that control layer in Kawamura. One would have been motivated to do this because performing this step at the data transfer control layer would be better more efficient than having another component of the system perform this step, where this other component would then have to send the information across multiple layers.

Allowable Subject Matter

14. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Parker (US 5,706,439), Ibaraki et al. (US 6,590,865), and Garney et al. (US 6,101,613) disclose system that allocate between isochronous and asynchronous channels.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703)305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

TLL
Timothy Lee
January 5, 2004



HASSAN KIZOU
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